

Thermal Data Exchange Using International Standards, Phase I

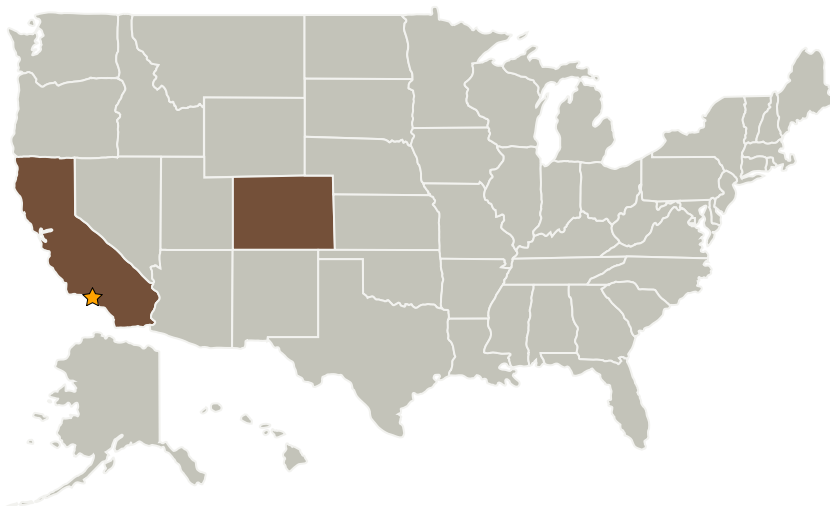
Completed Technology Project (2007 - 2007)



Project Introduction

Spacecraft projects today consist of many different cooperating companies and institutions. The project members typically use different thermal design analysis software, making the vital exchange of data between team members difficult, costly, or impossible. One solution would be for everyone to use the same software, such that there would be no loss of data when exchanging models and predictions. However, the end result would be little innovation in thermal design software. Competition drives the development of new technologies, but also creates communication barriers. Each tool suite has unique capabilities and specializations, such that a superset of all tools would represent a tremendous advance in and of itself. We propose to develop a "best of both worlds" solution by adopting and extending an international open standard, STEP, for data exchange of thermal models, results, and test data. Such a standard, if available in all major design tools without limiting the unique capabilities of each, allows customers, contractors, and subcontractors to work simultaneously on the same project while using different software. It also allows each organization to choose the best software for each mission, component, and even design task, resulting in the best overall total project efficiency.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission
Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation
Research/Small Business Tech
Transfer

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Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Cullimore & Ring Technologies, Inc.	Supporting Organization	Industry	Littleton, Colorado

Primary U.S. Work Locations

California	Colorado
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX14 Thermal Management Systems
 - └ TX14.2 Thermal Control Components and Systems
 - └ TX14.2.5 Thermal Control Analysis